



West Lothian
Council

COUNCIL EXECUTIVE

EDINBURGH AIRPORT PHASE 2 CONSULTATION ON AIRSPACE CHANGE

REPORT BY HEAD OF PLANNING, ECONOMIC DEVELOPMENT & REGENERATION

A. PURPOSE OF REPORT

The purpose of this report is to advise the Council Executive that a second consultation on airspace change has now been issued by Edinburgh Airport Ltd. which has a response date of 30 April 2017. The report contains observations of the process along with a proposed response and other proposed activities.

B. RECOMMENDATION

It is recommended that the Council Executive:

1. notes the content of the report and the accompanying proposed consultation response,
2. approves the response at Appendix 1 as the council's response to the consultation,
3. approves the proposal that a letter be sent to Edinburgh Airport Ltd., the Civil Aviation Authority, and the Minister for Aviation expressing concern about the bias of the consultation, the inaccuracies of data used, the lack of a status quo option, and negative impact upon West Lothian residents, and
4. approves that, should the airport progress with a proposal to the Civil Aviation Authority (CAA) to change the airspace, and West Lothian are invited to comment, that the engagement of an independent consultant be considered to assist with interpretation of flight path information and the impact on the community wellbeing.

C. SUMMARY OF IMPLICATIONS

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| I Council Values | Focusing on our customers' needs; being honest, open and accountable; working in partnership. |
| II Policy and Legal (including Strategic Environmental Assessment, Equality Issues, Health or Risk Assessment) | West Lothian Council has no statutory powers to regulate air traffic routes or noise. Air Traffic Routes are regulated by the Civil Aviation Authority (CAA). Noise from aircraft in Edinburgh Airport is regulated by Edinburgh Airports Ltd. |

CAA Airspace Change Process Guidance Document CAP 725, section 2.5 identifies local authorities as a stakeholder who must be consulted. No formal consultation has taken place. This omission, and potential implication, has been raised with the CAA.

The World Health Organisation identifies that aircraft noise and pollution can have a negative health impact upon communities.

III Implications for Scheme of Delegations to Officers	None.
IV Impact on performance and performance Indicators	None.
V Relevance to Single Outcome Agreement	<p>Our children have the best start in life and are ready to succeed.</p> <p>We are better educated and have access to increased and better quality learning and employment opportunities.</p> <p>Our economy is diverse and dynamic, and West Lothian is an attractive place for doing business.</p> <p>We live longer, healthier lives and have reduced health inequalities.</p> <p>We make the most efficient and effective use of resources by minimising our impact on the built and natural environment.</p>
VI Resources - (Financial, Staffing and Property)	None at present. However if a consultant is engaged costs will be incurred at that time. These costs will be met from existing budgets.
VII Consideration at LAC and PDSP	The consultation has been discussed at the Broxburn Uphall and Winchburgh Local Area Committee on 16 Feb; the Environment PDSP on 16 Feb, and the East Calder and East Livingston Local Area Committee on 23 Feb. Comments from these forums are attached as an appendix to this report.
VIII Other consultations	Development Planning, Economic Development

D. TERMS OF REPORT

D1 Background

The 2011 [Edinburgh Airport Masterplan](#) laid down the development trajectory for the airport and highlighted the potential future increase in airspace capacity to cope with traffic growth by the introduction of new technology

In summer 2015 Edinburgh Airport carried out a trial of an additional new instrument based western departure flight path, known as TUTUR. This took air traffic over Uphall and the Bathgate hills, neither of which had been significantly exposed to air traffic previously. The trial was intended to gather data for a possible further permanent westbound departure flight path from the airport. The airport operator has identified that additional flight paths are required to increase available runway capacity at the airport.

Edinburgh Airport subsequently stated that it viewed the trial to have been successful, but acknowledged there to be noise issues. Subsequently, it alluded to taking a more comprehensive look at all flightpaths.

Simultaneously, there is a move towards Performance Based Navigation (PBN) across European airspace. This uses satellite based navigation rather than ground based beacons and is more precise and permits some ability to route aircraft around sensitive areas. This change is driven by European air traffic standards and improvements in technology. The existing approach and departure routes were developed in the 1970s before this technology was available.

D2 'Let's Go Further' Consultation Process

In June 2016, Edinburgh Airport launched '[Let's Go Further](#)', its airspace change programme. The stated aim was to examine the potential impact of altering flightpaths '*to allow for maximum operational benefits and to minimise community impact*'.

Following these initial activities, the airport embarked on a two phase public engagement and consultation process:

- Phase 1 aimed to gather views from communities involved. The results of this initial consultation would be used to help guide the design and development of potential future flight path options. General indications were provided in illustrative 'envelopes' shown in pages 49-69 of the consultation. These laid out broad areas for 3 departure and 3 arrival routes over West Lothian. The Council's response was submitted following approval by the Council Executive on 30 August 2016.
- Following feedback on local sensitivities gathered during phase 1, phase 2 puts forward specific flightpath proposals for public consultation and explains the rationale for their selection. It asks for feedback on whether the right options have been selected and, where multiple options exist, how and when flightpaths should be used. This second phase of consultation was launched on 30 January, with responses due by 30 April.

It should be noted that the Airport has still not put forward any proposals, it is consulting on options. The results will provide the basis to allow the airport to make the subsequent [CAP725 statutory change process](#) application to the Civil Aviation Authority (CAA) with a view to implementing new flightpaths in 2018. It was considered that WLC would be an official consultee at that stage, however this has now been questioned and confirmation has been sought from the CAA.

D3 Programme Mandates

The programme mandate within phase 1 consultation stated: “We, Edinburgh Airport need to understand the views of stakeholders concerning the presentation of an airspace change proposal to the CAA that complies with the relevant regulatory requirements so that Edinburgh Airport can operate flight paths that maximise operational benefits and minimise community impact by 2018 so as to improve Edinburgh Airport’s national transportation infrastructure to enable the economic, social and cultural growth of Scotland”.

The mandate for phase 2 altered slightly to: “We, Edinburgh Airport need to understand the views of stakeholders concerning viable options for arrival and departure flight paths so we can alter flight paths to maximise operational benefits and minimise community impact by summer 2018 so as to produce an airspace change proposal to the CAA which complies with the relevant regulatory requirements and responds to consultee concerns”

It must be recognised that Edinburgh airport is a commercial operation with the aim of maximising the value of its resource – the airport. An increase in flight options and numbers will increase the potential of the airport, and therefore presumably its’ value.

However, this potential commercial growth will have a negative impact on the health and wellbeing of the communities which they fly over; particularly areas which are not currently subjected to aircraft noise. The consultation is designed to show that Edinburgh Airport Ltd. has taken community concerns in to consideration however the extent to which these have been taken in to consideration will not be apparent until an application is made to the CAA. It may also be the case that the proposals include options which will be willingly conceded to show that they have ‘listened’.

Within section 6.1 of the consultation document, under ‘benefits and Impacts’ the document states *“Given that change to the routes, and consequently their impacts, is inevitable due to future requirements, we are seeking to ensure the change achieves the optimal outcome for Edinburgh and Scotland. We are seeking to redesign the route system and apply new methods of operation that are only possible in a RNAV system, for example, routes that avoid areas with specific noise sensitivity and/or multiple RNAV routes which are designed to share the noise over a wider area.”*

Most of the routes proposed have a negative noise and air pollution impact upon West Lothian. The proposals have less impact on areas within the City of Edinburgh not already subjected to aircraft noise. The City of Edinburgh Council is the planning authority for the airport.

The statement is also indicative that change is a foregone conclusion and it fails to consider that ‘doing nothing’ may be an option. Within the West Lothian response to the first consultation, on-ground efficiencies were proposed; the airport has not responded to these suggestions. The consultation specifically states that anything other than a response to their specific questions will be considered out of scope. This approach is restrictive and will once again be commented upon. A statement from the Airport’s Chief Executive, given in a newspaper article in which he proclaims that the consultation is meaningful is included at Appendix 3.

D4 WLC Response to phase 1 consultation

The council considered the implications of the change and submitted a response to Edinburgh Airport Ltd. A copy of the response submitted is attached as Appendix 4. The proposed response to this second round of consultation will make reference to the phase 1 response, highlighting areas where opinion appears not to have been considered. It is, however, appreciated that the airport received many thousands of responses and it may not be possible to identify individual solutions.

It is noted that the second phase proposals have a change in emphasis therefore additional points have been considered.

D5 Consideration at LAC and PDSP

The consultation has been discussed at the Broxburn Uphall and Winchburgh Local Area Committee on 16 Feb; the Environment PDSP on 16 Feb, and the East Calder and East Livingston Local Area Committee on 23 Feb. At these meetings the proposed response was not available however initial considerations were shared and members given the opportunity to contribute. Public representations were also heard at all of the meetings. The comments within the minutes of the meetings are attached at Appendix 2.

D6 Additional concerns and comments raised during discussions:

The need for change

Edinburgh Airport Ltd., claim that there is a need for change. Flight figures presented for 2015 show an average of 147 departures per day. The main operating times are shown to be 7.00am – 11.00pm i.e. a 16hr day. If spread evenly this would equate to marginally more than 9 flights per hour departing at 6 minute intervals. Projected figures for 2023, presented on page 39 of the consultation, show a daily growth of approximately 30%; the actual numbers however range from 4 to 16 additional flights daily on each route. The need for change is therefore questionable. The airport fails to accept that on ground efficiencies may bring about improvements. The consultation proposes that one minute departures would be desirable, however the statistics would suggest that better on ground scheduling could accommodate more flights and would negate the need for such close departures. The cumulative impact should not be overlooked, if the projections are accurate, it would indicate an annual increase of approximately 17,000 flights.

Peaks in demand will reflect when customers want to fly. In addition, airlines will be keen to maximise aircraft use. It will be desirable to commence early to maximise the number of flights any short/medium haul aircraft can achieve in a working day. Limited on ground aircraft stance/parking capacity means that to accept inbound flights, departing flights need to go out beforehand. These are all issues which could be managed or controlled with on-ground improvements.

Section 12 of the consultation raises concerns about departure delays. It is considered that by better time-tabling on the ground, these could be avoided.

The consultation places great emphasis on introducing more modern 'Area Navigation' (RNAV) methods to improve efficiency and reduce flights over sensitive areas. The consultation fails to recognise that the introduction of RNAV is not dependent upon changed flight paths and the technology could be applied to existing flights to improve efficiency and avoid sensitive buildings such as educational establishments by fine tweaking within existing routes. Flight data show wide variances within existing routes

These anomalies have been raised within the proposed response.

D7 Noise pollution

The airport currently uses three main departure routes – Grice (4% - 5 flights per day), Talla (38% - 53 flights per day, and Gosam (58% - 81 flights per day) These, plus 'Tweed' arrivals (page 81) impact West Lothian to some degree however there are areas which are less impacted than others. The proposals show ten proposed routes (one arrival and 4 departures from each end of the runway). The noise maps indicate wide dispersal of sound, these converge on to each other and have the potential to blight much of West Lothian and make potential development areas less attractive to developers and house buyers. They also fly over areas of current tranquillity including our country park at Almondell. The maximum estimations show noise footprints which stop at Lmax 80dB – they do not seem to accept that noise does not stop at a line on a map and will be heard over a wider area at 70dB, then 60dB etc.

The flight numbers are given as an average which doesn't recognise that the majority of flights may wish to depart early morning, which would mean a very high noise impact at that time. There will also be a seasonal variation with more flights departing in summer – this is not explained within the document.

Concern is expressed that rural tranquillity has not been considered, contrary to the CAA guidance. It was commented that people choosing to live under current flight paths made the choice with the knowledge of what currently exists – those choosing a rural environment did the same, and should not now be subjected to new noise.

The density mapping system used to determine impact is fundamentally flawed in its' consideration of tranquil, less densely populated areas. A rural community may have a hundred residents, a town, 1,000 residents. If all respond negatively, the outcome will show a 10:1 bias in favour of flying over the tranquil area. The noise differential impact is not considered. Those with lowest population will have lowest say. The outcome is a popularity vote as opposed being based on rigorous assessment and identification of need. The population maps used contain significant under estimates of population sizes and take no cognisance of core development areas where community growth has already been planned.

Noise is greatest when aircraft are climbing and turning. Many of the proposed routes show very sharp turns close to take off, which will mean that noise experienced will be louder than at present.

Studies by the World Health Organisation (WHO 1999: Guidelines for Community Noise, WHO 2009: Night Noise Guidelines for Europe) clearly show a correlation between noise and poor mental and physical health. The flight path proposals expose greater areas of West Lothian to unwanted noise. There is no night time noise data provided within the document.

It was suggested at the LAC that noise complaints to the airport had increased significantly and may have risen from 10 per quarter to over 600 per quarter. It was also commented upon that residents were becoming fed up with complaining as nothing appeared to be done.

Noise may also impact wildlife, in particular bird populations, therefore the airport should be asked to take this in to consideration.

It was noted that the current consultation makes reference to sound insulation payments schemes showing an expectation of problems. The criteria for such insulation are extremely strict and not all those impacted will be eligible. The logical solution should be to not allow the problem to happen in the first place. Existing and planned new-build properties under proposed flight paths are not being constructed with increased sound insulation standards.

It was suggested that 71% of those responding to consultation 1 were negative and over 50% raised concerns about noise showing the depth of feeling within the community.

D8 Air pollution

The previous WLC response did not specifically comment upon pollution as the impact was thought to be negligible. However research has identified studies which show the impact may be greater than first thought. Studies by [Massachusetts Institute of Technology published in February 2015](#) show pollution impact within three different location bands. 1km from source, between 1 and 10, greater than 10. Much of West Lothian is within the middle 1 to 10km impact zone.

The airport consultation appears to indicate that proposed routes will reduce fuel use and pollution. At section 21.1 of the consultation document a table is displayed which shows the current pollution contribution and a potentially reduced contribution if the new flight paths are implemented. The summary indicates a CO₂ reduction of 8519Tonnes will be delivered. This figure is based on the current volume of aircraft, not the proposed volume; increased flight numbers will give rise to increased pollution.

At a public meeting the airport's Chief Executive explained although increasing, the industry would still be within its overall E.U. agreed quota for pollution.

Finance

Concerns were raised about the accuracy and completeness of the financial information. The consultation showed the potential benefit of increased flights but failed to give any financial information relating to the finances leaving Scotland due to the availability of flights. It was also suggested that the airport was owned by a series of holding companies, and as such the tax receipts from the airport did not necessarily come to Scotland or the UK.

It was commented upon that the City of Edinburgh Council had the planning controls over the airport and may benefit financially from an increase in planning fees, yet they share little of the potential burden which West Lothian, Falkirk and East Fife would encounter.

Concern was raised about accuracy of job statistics and whether it could be shown that these were in Scotland or elsewhere.

D9 Accuracy of the Consultation

On the phase 1 consultation, the post code search facility and 'design envelope' maps indicated there was no impact on Winchburgh. The stage 2 consultation now includes Winchburgh. The introduction of the village now may have disenfranchised the communities and impacted the number of responses from residents during phase 1. Some, having satisfied themselves that they were not affected during stage 1, may still consider that they are unaffected.

Concern is expressed about population accuracies and how they were calculated. It transpires that the 'most recent' census figures from 2011 were used; these figures are significantly out of date. It is also of concern that planned core development population/housing growth did not appear to have been taken in to consideration in spite of this being specifically highlighted in the councils phase 1 consultation response. No population figure was identified for East Calder, making the proposed route A6 appear to affect a minimal number of residents. Similarly, the consultation fails to appreciate the significant amount of growth which is planned in the Winchburgh & East Broxburn CDA.

CAP 725 allows for the status quo to be maintained – at no stage within the consultation document is this proposed as an option, neither is utilising on ground efficiency measures. As a commercial operation, the airport will be aware of the costs and disruption of implementing runway improvements and also of the desire of aircraft operators, to maximise aircraft use.

Concern was voiced at the LAC about possible conflict of interests within aviation industry and regulators. The objective of business is to increase value of assets for shareholders, not to necessarily protect the on-ground public.

D10 Economic Development

Whilst concerns exist over noise and other environmental impacts, it must also be recognised that the proximity of Edinburgh Airport may provide an economic benefit to West Lothian. The economic benefits associated with Edinburgh Airport include the direct and indirect impacts associated with airport operations. Associated on-site operations, off-site operations, passenger expenditure and freight traffic arriving and departing from the Airport all have a positive financial impact.

The location may make West Lothian an attractive place from which to conduct business. It is claimed that 20% of directly employed airport staff live in West Lothian. It is also claimed that a proportion of the 23,000 wider jobs supported may be held by West Lothian residents. These figures have not been independently verified. The airport brings tourists spending in to Scotland but conversely also takes tourist spending out.

The consultation documents fail to show the balance between money in, and money out, of Scotland. It also fails to show the tax revenue to the UK economy or whether, through business ownership models, the tax revenue is enjoyed elsewhere.

D11 Proposed response

The consultation is accompanied by a survey tool to allow electronic recording of opinion. The survey tool asks a series of questions all designed to give responders the option of selection which route they favour over others. It does not give the opportunity to reject the proposal or route. Within this tight restriction it is proposed that the electronic response included at Appendix 1 be sent to the airport. Where the route change does not impact West Lothian, the response has been left blank.

The survey will be collated electronically therefore in order to ensure that the issues raised at the LAC and PDSP are brought to light, it is also proposed that a written response, incorporating the concerns within this report, be sent to:

- Edinburgh Airport Ltd
- Aviation minister
- Civil Aviation Authority, and
- City of Edinburgh Council as Planning Authority.

E. CONCLUSION

The second phase of the airspace change consultation has now been released with a response deadline of 30 April 2017. The consultation proposes flight path options and asks responders to comment upon these options. Although seen as giving responders the opportunity to influence the final decision, it does create uncertainty about the eventual impact upon West Lothian and fails to recognise that the status quo, with implementation of on ground efficiency measures as proposed in the response to the first consultation, may be an option.

Unwanted and persistent noise and pollution from aircraft has a detrimental impact on health. Noise impact on schools may have a disruptive effect, influencing whether our children have the best start in life and are ready to succeed. The consultation makes no justifiable case to increase the number of aircraft flying over West Lothian, or changing routes to fly over exiting areas of tranquillity, therefore the proposed response reflects this position.

F. BACKGROUND REFERENCES

Edinburgh Airport Lets go Further consultation. Report to Broxburn Uphall and Winchburgh LAC, 16 Feb 2017 and 8 September 2016

Edinburgh Airport Lets go Further consultation. Report to East Calder and East Livingston LAC, 23 Feb 2017.

Edinburgh Airport Lets go Further consultation. Report to Environment PDSP on 16

Feb 2017 and 29 Oct 2016.

Edinburgh Airport Lets go Further consultation. Report to Council Executive on 30 August 2016.

Appendices/Attachments:

Appendix 1 – Response to initial ‘Let’s go further’ consultation

Appendix 2 – comments from LAC and PDSP

Appendix 3 – Quotation from Edinburgh Airport’s Chief Executive

Appendix 4 – response to phase 1 consultation

Appendix 5 – Summary of key proposals

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Craig McCorriston

Head of Planning, Economic Development & Regeneration

25 April 2017.

Appendix 1 – Proposed survey monkey response to the phase 2 consultation.

Note the response is a web enabled survey – the data has been copied and pasted in to this proposed response.

If agreed, the content will be uploaded to the electronic survey.

Consultation:

We have investigated a number of flight path options and presented our preferred options for each flight path route. We are asking if you agree with our preferred options and why.

1. First name: [Andrew](#)
2. Last name: [Blake](#)
3. Postcode: [EH49 7ED](#)
4. Area : [West Lothian](#)
5. I'm responding as
Individual
[Elected official](#)
(note there is no option to respond 'on behalf of' elected officials)

Organisation (please provide name)
[West Lothian Council](#)

6. I want to keep up to date by email address. If so, provide email:
Andrew.blake@westlothian.gov.uk

7. I want to keep up to date by postal address. If so, provide postal address:
n/a

8. Flight path A - Runway 24 departures left turn

There are six viable flight path options for flight path A, flight path A7 was investigated but does not meet ICAO design criteria. Our preferred option is flight path A6. To what extent do you agree with our preferred flight path A6?

* 8. Flight path A - Runway 24 departures left turn

There are six viable flight path options for flight path A, flight path A7 was investigated but does not meet ICAO design criteria.

Our preferred option is flight path A6. To what extent do you agree with our preferred flight path A6?

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
A6	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 9. Please rate the other viable flight path A options using the scale below:

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
A1	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
A2	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
A3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
A4	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A5	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Please explain your answers above and provide us with any other comments in the space below

10. Please explain your answers above and provide us with any other comments in the space below

The proposed route exposes West Lothian residents to an increase in noise and air pollution. The vectoring factor allows for significant deviation from the route which would expose West Lothian residents to increased noise and air pollution. Route A6 directly overflies East Calder and the associated Calderwood Core Development Area, identified in the Local Development Plan on which Edinburgh Airport was consulted. No population figures are provided for East Calder, this has resulted in a misleading view of the population overflowed therefore the consultation is flawed. The proposed route directly overflies the planned sites for the new Calderwood Primary and East Calder High Schools. If selected, it should not be used for night time flights due to the population impact.

11. Flight path B - Runway 24 departures straight ahead

There are three viable flight path options for flight path B, flight paths B3, B4 and B6 were investigated but do not meet ICAO design criteria. Our preferred option is flight path B5 with the addition of the B2 offload route. To what extent do you agree with our preferred flight paths B5 and B2?

*** 11. Flight path B - Runway 24 departures straight ahead**

There are three viable flight path options for flight path B, flight paths B3, B4 and B6 were investigated but do not meet ICAO design criteria.

Our preferred option is flight path B5 with the addition of the B2 offload route. To what extent do you agree with our preferred flight paths B5 and B2?

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
B2	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

*** 12. Please rate the other viable flight path B options using the scale below:**

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
B1	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B6	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Please explain your answers above and provide us with any other comments in the space below

13. Please explain your answers above and provide us with any other comments in the space below

The proposed route exposes West Lothian residents to an increase in noise and air pollution. The vectoring factor allows for significant deviation from the route which would expose West Lothian residents to increased noise and air pollution. B1 directly overflies the centre of Broxburn and Ecclesmachan at low altitude and will expose areas of tranquillity to unacceptable new noise. B2 directly replicates the effects of the TUTUR1C trial route and will expose areas of tranquillity to unacceptable new noise. During the trial the community of Uphall raised significant concerns which should be listened to.

B5 and B6 overfly Livingston, but the combination of greater altitude and higher background noise levels lessens the impact on the community and is closer to the existing routes which residents are already accustomed to.

14. Flight path C - Runway 24 departures right turn to north

There are six viable flight path options for flight path C. Our preferred option is flight path C5. To what extent do you agree with our preferred flight path C5?

* 14. Flight path C - Runway 24 departures right turn to north

There are six viable flight path options for flight path C.

Our preferred option is flight path C5. To what extent do you agree with our preferred flight path C5?

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
C5	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 15. Please rate the other viable flight path C options using the scale below:

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
C1	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
C2	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C3	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C3a	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C4	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Please explain your answers above and provide us with any other comments in the space below

* 16. Please explain your answers above and provide us with any other comments in the space below

C5 directly overflies the east Broxburn and Winchburgh Core Development Areas including Winchburgh Primary School. Edinburgh Airport was consulted on these during development of the Local Development Plan. An unacceptable degree of noise intrusion is foreseeable with low altitude, high power turning manoeuvres taking place. This route is entirely unsuitable for night traffic, particularly as it closely mirrors D0 on its initial stages. No population figures were provided for the expanded Winchburgh or recognising the expanding east Broxburn. This has led to misleading conclusions on population overflow. The phase 1 consultation clearly showed Winchburgh to be out with the design envelopes, yet has been chosen as the preferred route.

C4 would unacceptably expose Uphall and Ecclesmachan to low altitude manoeuvres on high power.

C3 is undesirable due to its direct overflight of Linlithgow; C3a provides a slightly better alternative.

C2 directly overflies Dechmont and the large homes development planned for the former Bangour Hospital site. Flying over allocated housing land will reduce the attractiveness to developers and buyers.

C1 is a general improvement on the status quo.

* 17. Flight path D - Runway 24 departures right turn to south

There are five viable flight path options for flight path D, flight path D2 was investigated but does not meet ICAO design criteria.

Our preferred option is flight path D0. To what extent do you agree with our preferred flight path D0?

* 17. Flight path D - Runway 24 departures right turn to south

There are five viable flight path options for flight path D, flight path D2 was investigated but does not meet ICAO design criteria.

Our preferred option is flight path D0. To what extent do you agree with our preferred flight path D0?

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
D0	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 18. Please rate the other viable flight path D options using the scale below:

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
D1	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D3	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D4	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D5	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Please explain your answers above and provide us with any other comments in the space below

* 19. Please explain your answers above and provide us with any other comments in the space below

D0 directly overflies the east Broxburn and Winchburgh Core Development Areas. Edinburgh Airport was consulted on these during development of the Local Development Plan. An unacceptable degree of noise intrusion is foreseeable with low altitude, high power turning manoeuvres taking place. This route is entirely unsuitable for night traffic, particularly as it closely mirrors C5 on its initial stages. No population figures were provided for the expanded Winchburgh or recognising the expanding east Broxburn. This has led to misleading conclusions on population overflown. The phase 1 consultation clearly showed Winchburgh to be out with the design envelopes, yet has been chosen as the preferred route.

D1 closely mirrors C5 in its initial stages. It would expose both Broxburn and Winchburgh to unacceptable low altitude overflight with associated noise and air pollution.

D2 closely would expose central Broxburn to unacceptable low altitude overflight.

D3 closely mirrors the TUTUR1C trail flightpath, exposing Uphall to low level overflight

D5 overflies Linlithgow and surrounding areas of tranquillity.

* 20. Flight path E - Runway 06 departures left turn west

There are six viable flight path options for flight path E, flight path E1a and E1b were investigated but ruled out as they do not meet ICAO design criteria.

Our preferred option is flight path E6. To what extent do you agree with our preferred flight path E6?

*** 20. Flight path E - Runway 06 departures left turn west**

There are six viable flight path options for flight path E, flight path E1a and E1b were investigated but ruled out as they do not meet ICAO design criteria.

Our preferred option is flight path E6. To what extent do you agree with our preferred flight path E6?

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
E6	<input type="radio"/>				

*** 21. Please rate the other viable flight path E options using the scale below:**

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
E2	<input type="radio"/>				
E3	<input type="radio"/>				
E4	<input type="radio"/>				
E5	<input type="radio"/>				
E7	<input type="radio"/>				

22. Please explain your answers above and provide us with any other comments in the space below

* 22. Please explain your answers above and provide us with any other comments in the space below

No comments as this does not impact West Lothian residents

*** 23. Flight path F - Runway 06 departures left turn to north**

There are three viable flight path options for flight path F, flight path F1, F4, F5 and F6 were also investigated but they were ruled out as they do not meet ICAO design criteria.

Our preferred option is flight path F2a. To what extent do you agree with our preferred flight path F2a?

*** 23. Flight path F - Runway 06 departures left turn to north**

There are three viable flight path options for flight path F, flight path F1, F4, F5 and F6 were also investigated but they were ruled out as they do not meet ICAO design criteria.

Our preferred option is flight path F2a. To what extent do you agree with our preferred flight path F2a?

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
F2a	<input type="radio"/>				

*** 24. Please rate the other viable flight path F options using the scale below:**

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
F2	<input type="radio"/>				
F3	<input type="radio"/>				

25. Please explain your answers above and provide us with any other comments in the space below

* 25. Please explain your answers above and provide us with any other comments in the space below

No comments as this does not impact West Lothian residents

*** 26. Flight path G - Runway 06 departures left turn to south**

There are two viable flight path options for flight path G, flight paths G1, G2, G3 and G6 were also investigated but were ruled out as they do not meet ICAO design criteria.

Our preferred option is flight path G5. To what extent do you agree with our preferred flight path G5?

*** 26. Flight path G - Runway 06 departures left turn to south**

There are two viable flight path options for flight path G, flight paths G1, G2, G3 and G6 were also investigated but were ruled out as they do not meet ICAO design criteria.

Our preferred option is flight path G5. To what extent do you agree with our preferred flight path G5?

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
G5	<input type="radio"/>				

*** 27. Please rate the other viable flight path G options using the scale below:**

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
G4	<input type="radio"/>				

28. Please explain your answers above and provide us with any other comments in the space below

* 28. Please explain your answers above and provide us with any other comments in the space below

No comments as this does not impact West Lothian residents

* 29. Flight path H - Runway 06 departures right turn to south west

There are two viable flight path options for flight path H, flight path H3 and H4 were also investigated however these were ruled out as they do not meet ICAO design criteria.

Our preferred option is flight path H2. To what extent do you agree with our preferred flight path H2?

* 29. Flight path H - Runway 06 departures right turn to south west

There are two viable flight path options for flight path H, flight path H3 and H4 were also investigated however these were ruled out as they do not meet ICAO design criteria.

Our preferred option is flight path H2. To what extent do you agree with our preferred flight path H2?

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
H2	<input type="radio"/>				

* 30. Please rate the other viable flight path H options using the scale below:

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
H1	<input type="radio"/>				

31. Please explain your answers above and provide us with any other comments in the space below

* 31. Please explain your answers above and provide us with any other comments in the space below

No comments as this does not impact West Lothian residents

* 32. Runway 24 arrivals

Due to the low number of flights arriving from the north we are not proposing any changes to aircraft arrivals from the north. We are proposing to introduce a flight path for aircraft arriving from the south as shown in Figure 48 on page 122. This will better enable continuous descent approaches which require less fuel and reduce CO2 emissions whilst ensuring safe and orderly control of arriving aircraft.

To what extent do you agree or disagree with our proposals for aircraft arriving onto Runway 24?

*** 32. Runway 24 arrivals**

Due to the low number of flights arriving from the north we are not proposing any changes to aircraft arrivals from the north. We are proposing to introduce a flight path for aircraft arriving from the south as shown in Figure 48 on page 122. This will better enable continuous descent approaches which require less fuel and reduce CO2 emissions whilst ensuring safe and orderly control of arriving aircraft.

To what extent do you agree or disagree with our proposals for aircraft arriving onto Runway 24?

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
Runway 24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

33. Please explain your answers above and provide us with any other comments in the space below

* 33. Please explain your answers above and provide us with any other comments in the space below

No comments as this does not impact West Lothian residents

*** 34. Runway 06 arrivals**

Due to the low number of flights arriving from the north we are not proposing any changes to aircraft arrivals from the north. We are proposing to introduce a flight path for aircraft arriving from the south as shown in Figure 53 on page 128. This will better enable continuous descent approaches which require less fuel and reduce CO2 emissions whilst ensuring safe and orderly control of arriving aircraft.

To what extent do you agree or disagree with our proposals for aircraft arriving onto Runway 06?

*** 34. Runway 06 arrivals**

Due to the low number of flights arriving from the north we are not proposing any changes to aircraft arrivals from the north. We are proposing to introduce a flight path for aircraft arriving from the south as shown in Figure 53 on page 128. This will better enable continuous descent approaches which require less fuel and reduce CO2 emissions whilst ensuring safe and orderly control of arriving aircraft.

To what extent do you agree or disagree with our proposals for aircraft arriving onto Runway 06?

	Strongly disagree	Disagree	Partly agree	Strongly agree	N/A
Runway 06	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

35. Please explain your answers above and provide us with any other comments in the space below

* 35. Please explain your answers above and provide us with any other comments in the space below

This largely mirrors the status quo. Whilst overflying Livingston, it is limited to 20% of flights and aircraft are generally on low power.

By submitting my response, I confirm that I have read and agree to the Airspace Change Programme Consultation Privacy Policy and understand that by responding to the Airspace Change Programme Consultation my personal information will be used and disclosed in the manner set out in the Privacy Policy.

Bottom of Form

Appendix 2

Minutes from Local Area Committees and Policy Development & Scrutiny Panel

The consultation has been discussed at the Broxburn Uphall and Winchburgh Local Area Committee on 16 Feb; the Environment PDSP on 16 Feb, and the East Calder and East Livingston Local Area Committee on 23 Feb. At these meetings the proposed response was not available however initial considerations were shared and members given the opportunity to contribute. Public representations were also heard at all of the meetings. The comments within the minutes of the meetings are as follows:

The Minutes of the Environment PDSP show that:

Members noted the contents of the report.

Members noted comments made by Helena Paul, Ian Mate (Airport Watch) and elected members at PDSP and LAC meetings with regard to aircraft noise and its effects, frequency of flights, carbon footprint reduction claims, new build considerations, complexity of consultation paper and that the status quo should be an option, would be taken into consideration on final report.

The Minutes of the Broxburn, Uphall and Winchburgh LAC show that:

1) Members noted the deputation by Ian Mate and Helena Paul highlighting the concerns raised by Edinburgh Airport Watch as follows;

- a) The financial impact to the Scottish economy caused by Scottish tourists going abroad on holiday;
- b) Airport management on the ground due to the number of flights leaving at the same time in the morning; and
- c) The timetable and number of flights leaving and the fact that aircrafts were bigger and noisier.

Concerns raised included serious health aspects and life changing consequences for residents in West Lothian; information was flawed and missing from the original TUTUR consultation and showed different flight paths; population figures in Winchburgh were miscalculated and the complexity of the consultation paper. (all of these issues have been considered in the proposed response)

Members of Edinburgh Airport Watch believed that Edinburgh Airport had not been open and transparent in their consultation process and recommended that an independent aviation consultant be recruited as an adviser during this process.

2) Members noted the report and the update from the Environmental Health and Trading Standards Manager;

3) Committee noted the concerns from Elected Members which would be taken into consideration when reporting to Council Executive:

- a) residents in Winchburgh had not been involved in the Phase 1 consultation process and therefore not given the opportunity to comment. Information about the population of Winchburgh was also understated as the new homes being built were not taken into account. (Considered in response)
- b) the impact on children's health due to aircraft noise which could lead to children underperforming at school. It was recommended that the Children and Young People's Commissioner be contacted to find out if independent research had been carried out into the attainment levels of children who lived under flight paths with a high level of aircraft noise. (Considered in response)
- c) why West Lothian in particular seemed to be the main participant of new flight paths but the City of Edinburgh did not seem to be impacted in the same way?;
- d) concerns about the high level of pollution in Broxburn Main Street and the impact the additional flights would have on pollution levels; (Considered in response)
- e) suggested that the council considers appointing an expert aviation consultant to provide advice;
- f) suggested that independent monitoring of the noise levels be carried out following the recent consultation, delegated to the Head of Planning, Economic Development and Regeneration, in advance of the final routes being identified to ensure that sufficient data was available;

Elected members requested that officers provide community councils with the advice and support required to assist them to complete Phase 2 consultation response.

The Minutes of the East Calder and East Livingston LAC show that:

- a) Members noted the contents of the officers report;
- b) Members noted the contents of the deputations from Mr. Tony Foster and Ms Helena Paul both of whom were expressing their concerns for the manner and nature in which the Edinburgh Airport consultation was being conducted by the airport; and
- c) Agreed the terms of the report and requested that the Council Executive be asked to forward a copy of the council's consultation response to both the CAA and the UK Minister for Aviation.

Appendix 3

Press Statement by the CEO of Edinburgh Airport Ltd.

Edinburgh Airport's Chief Executive Gordon Dewar, said:

"Our international route network has grown to become the envy of many similar sized European airports. The strong levels of growth we have experienced since 2013 resulted in the airport handling over 11.1 million passengers last year.

"However, this constant growth in passenger numbers presents us with challenges.

"We need to modernise and improve Edinburgh Airport in a way that maximises the benefits across Scotland and minimises the impact on local communities.

"The objective of the first stage of the consultation is to gain responses from the public that will help us inform the design of any potential future flight paths. We want everyone to know they have the opportunity to have their say on the positioning of potential future flight path changes.

"Over the coming days, weeks and months our initial consultation will involve a leaflet drop to over 640,000 doors, will be highlighted via our vast social media reach, targeted through advertising to a TV audience of at least 900,000 as well as an outdoor advertising campaign in arterial routes across Edinburgh and in national and local newspapers adverts. We'll also be engaging with community groups to help us have discussions in local communities.

"We are absolutely committed to undertaking a robust and meaningful consultation process; to give stakeholders even greater confidence we have commissioned the Consultation Institute to conduct a Quality Assurance of our consultation process.

"This time last year we were – justifiably in some cases – we were criticised for not engaging thoroughly enough with our neighbouring communities before running a flight path trial.

"We've learned our lessons and this time round will do all that we reasonably can to ensure that everyone has their say on the future growth of Edinburgh Airport."

Appendix 4

West Lothian Council Response to Phase 1 Consultation - 'Let's Go Further' Airspace Change.

What local factors should be taken into account when determining the position of the route within the design envelope given the potential impacts, and why?

West Lothian Council advocates that the following matters should be taken into account when determining the position of route(s) within the design envelopes:

1. The wishes of the community must be taken in to consideration.

The reason this should be taken in to consideration is because this current phase one consultation appears to make the assumption that airspace use change is the only solution to growth without first demonstrating that all other on ground and airspace management options have been exhausted. As such it is particularly restrictive and has failed to recognise or acknowledge the levels of concern raised during the TUTUR trial by the West Lothian Community.

2. Established routes and the impact of changes on those not currently subjected to aircraft noise.

The reason this should be taken in to consideration is that the airport has failed to demonstrate that they have exhausted all on ground solutions to increasing flight numbers and capacity. Before considering any changes to flight paths over areas not previously overflowed, Edinburgh Airport should exhaust all on-ground options to increase capacity, such as improved runway access and egress, aircraft holding areas and management of the airspace and permitted aircraft types. The Edinburgh Airport Masterplan (2011) identifies that, *'further enhancements to both runways and associated taxiways, could increase the capacity of the runway system as a whole to approximately 55 movements per hour'*. Rapid access and egress taxiways are specifically highlighted.

The TUTUR flightpath trial demonstrated that the routing of aircraft over areas which are not currently affected results in significant levels of complaint and concern to the public. Some of those residents may have chosen to live in an area because it is not affected by overflight. This effect is magnified in rural areas where background noise levels are lower, making overflight noise proportionately more intrusive. Community resistance should be anticipated where new routine overflight is proposed.

3. Cost of on-ground solutions versus negative impact on WL community.

The reason this should be taken in to consideration is the airport has failed to demonstrate that they have considered the cost of alternative solutions versus the negative impact on the community experienced during the TUTUR trial. This consultation appears to imply that change of airspace is the only solution without first demonstrating publically that all other options have been considered and costed.

For example, the runway at Edinburgh, unlike most major airports, only has two exit points, both of which are at 90 degrees to the runway. Other major airports have exits at 45 degrees

to the runway orientation which increases runway capacity by allowing landing aircraft to clear the runway more quickly.

Before considering any changes to flight paths over areas not previously overflown, Edinburgh Airport should exhaust all on ground options to improve capacity. Improving on-ground traffic flow to occupy or vacate the existing runway more efficiently could include options such as additional exit and egress points or tapered exit and egress points to replace the restrictive two 90⁰ access/egress points at extremities of the existing runway as at present.

4. Overflight Noise impact on general community

The reason this should be taken in to consideration is that the aircraft noise has a detrimental impact upon sleep; a fact confirmed by complaints during the TUTUR trial. The impact on health of excessive or persistent noise or disturbed sleep is well documented. Any proposed changes, if at all required, should not be detrimental to the community. The post TUTUR report, following the trial ending in Oct 2015, identified that noise issues existed however the information relating to these has not been included within this consultation. Flight approach, height, speed and turning requirements affect noise generation. Rate of climb on take-off and landing directly affect noise impact. Initial steep climbs result in higher noise levels near the airport but less over West Lothian, whilst more gradual ones extend noise effects over a longer distance. The use of airspaces should be managed to minimise the impact on West Lothian residents.

Aircraft at 3-4000ft. appear to be most intrusive, as they produce significant peak levels and give rise to more prolonged events due to altitude. Close community overflight in this altitude range should be avoided entirely for this reason.

5. Overflight Noise impact on specific communities/establishments.

The reason this should be taken in to consideration is that excessive aircraft noise can have a negative impact on education due to the disturbing nature of the noise. Flights should avoid overflying educational establishments during the day, particularly whilst at lower altitudes. A map of West Lothian schools is attached for information.

Those already impacted by noise may have a degree of desensitisation and therefore may not notice a change in frequency of flights, however those currently residing in more tranquil locations would experience a greater negative impact of the introduction of over flight in their community. For these reasons over-flight of areas of current tranquillity should be avoided.

Flights should, where possible, avoid overflying hospitals where noise intrusion may impact rest and recuperation of patients.

6. Location of existing settlements/population density

The reason this should be taken in to consideration is that government guidance provides generic objectives for airspace changes, such as the need to overfly the fewest people below 7,000ft above ground level. The current routes directly overfly Pumpherston and Livingston, with a significant combined population. Options for overflight of open space, such as the river Forth, should be considered.

7. Planned location of future settlements

The reason this should be taken in to consideration is that over the next eight years, 19,800 houses are proposed for West Lothian; some of which have already been built. The growth is largely focussed on the Core Development Areas. Planning proposals include significant housing development in Broxburn, Drumshoreland, Bangour and East Calder, and these should be taken into consideration when assessing the population potentially affected. Full details can be found in the [West Lothian Local Development Plan, proposed Plan](#), (LDP) on which Edinburgh Airport was consulted.

The Plan also advises that a number of housing sites will continue to deliver beyond the plan period. Taking these into consideration this provides for a total of 26,073 homes, principally through ongoing development within the core development areas and strategic allocations.

It is essential that residents can sleep and enjoy outdoor activity without unreasonable interference.

8. Times of flights and frequency

The reason this should be taken in to consideration is that aircraft noise disturbs sleep and sleep disturbance can affect sleep patterns and mental health. In our younger population, sleep disturbance may adversely affect educational performance. Direct overflight of communities during evenings, overnight and early morning should be entirely avoided.

30 August 2016

Appendix 5

Summary and Key Proposals

1. A design requirement is to facilitate 1 minute interval departures. (The initial consultation highlighted this for peak times, but phase two doesn't restrict this to peak periods).
2. Routes are to be designed and implemented for Performance Based Navigation using Area Navigation (RNAV). This will result in greater accuracy of track keeping, but will consequently mean a higher proportion of flights being exactly on the flight line.
3. Ten separate flightpaths are proposed:
 - 1 arrivals from the west (wind dependent, in use for approximately 20% of arrival flights)
 - 1 arrivals from the east (wind dependent, in use for approximately 80% of arrival flights)
 - 4 departures to the west (wind dependent, in use for approximately 80% of departing flights)
 - 4 departures to the east (wind dependent, in use for approximately 20% of departing flights)

For each, multiple options were considered and information is provided as to why the favoured option was selected.

The proposed flightpaths relate to arrivals and departures from four major routes or 'hold' patterns:

- GOSAM (west, jets only)
- GRICE (north west, all traffic)
- TALLA (south east, all traffic)
- TWEED (south, all traffic)

There are no proposed changes to the flightpaths for the minor runway, which is seldom used. The Edinburgh Airport Masterplan proposes its abolition.

4. The methodology used to assess routes is explained and shown in tables. Significant weight in the decision making process is placed on overflowed population. However, it should be noted that in relation to population overflowed:
 - the current overflight of Livingston by 91% of westbound take-offs means that any reduction in Livingston overflight is viewed as beneficial. This can, however, be at the cost of overflight at lower altitude of communities closer to Edinburgh Airport. The greater noise associated with lower altitude overflight of a community is not considered; and
 - the stated size of Winchburgh (2000) greatly underestimates its planned population. The population of East Calder has not been considered. Both of these factors have influenced selected route choice.

Notable Outcomes following Stage 1 Consultation

1. The locations of care and education facilities were taken into account and mapped. A map of WLC education facilities was provided to accompany the council's response to the phase 1 consultation.
2. Known areas of proposed development were said to be taken into account. These were highlighted in the council's response to the phase 1 consultation. However, the proposals

give rise to overflight of some new development areas including north Broxburn, East Calder, and Winchburgh.

Omissions and Inaccuracies

3. In comparing proximity and overflight in the assessment tables, it is unclear what the baseline is and therefore whether a proposed route is indeed an improvement.

Uncertainties

4. Utilisation. Although indicative % use figures for each route are provided, Edinburgh Airport is expecting and intending to grow. Therefore indicative route usage figures cannot be taken to represent patterns at inception or in the future.

Detailed Proposals and Effects on West Lothian Communities

Interactive maps of proposed flightpaths routes are available online at <http://www.letsqofurther.com/flight-paths>.

5. General. Given the tight routings around communities, and the permissible degree of flightpath divergence, some aircraft will overfly communities which the routes are designed to avoid.

Communities will perceive some degree of flightpath non-adherence due to direct vectoring of flights from the proposed flightpaths to the long distance flightpaths once above 4000ft. For a rapidly climbing aircraft, this may occur over communities as close as Broxburn.

6. Route A(6). Non-jet route replacing the existing TALLA standard instrument departure pattern of turning south much further west. This will bring air traffic directly over East Calder, which does not currently experience routine overflight. It appears to be primarily intended to separate south / east bound west departing traffic as soon as possible following takeoff. It does not appear to recognise the existence of East Calder and its planned growth. In particular, it will directly overfly Calderwood, the CDA and proposed secondary school. Vectoring from the route would permit overflight of south Livingston above 4000ft.

Possible Route A7 was ruled out as being too tight a turn, but the tighter D0 and C5 are not. It is not clear what the rationale is for this.

7. Route B (all traffic). Two options are proposed, B2 and B5, which are suggested to be complementary rather than an and / or option. B5 is the existing main departure route over Pumpherston and Livingston. A new westbound take off path (B2) intended to be an alternate to B5 is proposed. Whilst this reduces flights over Livingston in the immediate future, it is at the cost of directly overflying Uphall Golf club, similar to the trial TUTUR route at that point. It will also fly close, but not over the proposed homes at the former Bangour Hospital site before heading north west over the Bathgate hills towards Falkirk. A clear contrast exists between urban or rural overflight.

It is not clear why route B3 and B4 are viewed to be ICAO non-compliant.

8. Route C. Preferred route C5 was selected as it diverges from the main flight path early and overflies the industrial estates of east Broxburn. However, it fails to recognise the major planned home development in north Broxburn and Winchburgh. The sharp right turn may not be suitable for all aircraft and the mapping indicates some potential spread westwards over Broxburn. Where a rapid climb has occurred, vectoring may bring aircraft across any part of Uphall. Although proposed to be used for 7% of departing flights, these will include jets. It is expected to bring the centre of Broxburn within the 70dB and Winchburgh within the 75dB maximum noise level for flights departing on this

route. It cannot be agreed that this option results in a similar noise exposure to existing. It is recommended that this route not be permitted for night time flights. If this option is essential, C3a would appear to be better for noise impact on local communities.

9. Route D

The selected Route D0 is initially identical to selected route C5 resulting in concentrated traffic over north Broxburn and both flightpaths directly affecting new and existing development in Winchburgh. The combined effect of C5 and D0 is not quantified or discussed. It is recommended that this route not be permitted for night time flights.

10. Route E

Routes E1a and E1b (currently routinely used) as described as 'non-compliant' due to 'stabilisation distances' understood to relate to wake turbulence.

Some degree of overflight of communities in north West Lothian is to be expected when vectoring from E6 to long distance flightpaths takes place above 4000ft. However, this will be limited to the 20% of take offs to the east.

The expected degree of use each flightpath would handle (based on current traffic levels) is outlined in Table 12